

CLAIMS

1. A hollow preform for moulding to form a container and having an open end, an axially outermost extremity of said open end, and a shoulder inside said preform at said open
5 end, having a radially innermost diameter less than the internal diameter of said outermost extremity, and serving to have sealingly attached thereto a foil for closing said container at said shoulder.
2. A preform according to claim 1, wherein said shoulder is
10 of planar form and extends in a radial plane.
3. A preform according to claim 1, wherein said shoulder is of rounded form.
4. A preform according to claim 1, wherein said shoulder is of frusto-conical form and co-axial with said open end.
- 15 5. A preform according to claim 4, wherein said shoulder is inwardly converging.
6. A preform according to claim 5, wherein said shoulder commences at said extremity.
7. A preform according to any preceding claim and produced
20 by injection moulding.
8. A preform according to any preceding claim, wherein said open end is formed with an easy pouring feature consisting of a thin, radially outwardly thinning, curled-over, annular lip.
- 25 9. A preform according to any preceding claim and formed externally with a snap ring which, with an external annular shoulder, delimits an external, annular recess co-axial with the preform and serving as a main securing point for an

overcap.

10. A preform according to any preceding claim and having at the inside thereof and immediately beyond said extremity a frusto-conical surface which tapers slightly axially inwardly of the preform and serves as a guide for said foil during application of said foil and as part of a frustum seal.

11. A container comprising:-

a hollow body having a mouth end, an axially outermost extremity of said mouth end, and a shoulder providing a plastics surface inside said body at said mouth end and having a radially innermost diameter less than the internal diameter of said outermost extremity, and

a foil closing said body at said shoulder and sealingly attached to said plastics surface.

12. A container according to claim 11, wherein said shoulder is of planar form and extends in a radial plane.

13. A container according to claim 11, wherein said shoulder is of rounded form.

14. A container according to claim 11, wherein said shoulder is of frusto-conical form and co-axial with said open end.

15. A container according to claim 14, wherein said shoulder is inwardly converging.

16. A container according to claim 15, wherein said shoulder commences at said extremity.

17. A container according to any preceding claim, wherein said mouth end is formed with an easy pouring feature consisting of a thin, radially outwardly thinning, curled-

over, annular lip.

18. A container according to any one of claims 11 to 17, and further comprising a removable closure covering said mouth end.

5 19. A container according to claim 18, wherein said foil comprises a disc closing said mouth end and a pull tab extending from the periphery of said disc, said closure being applied over said disc so as to leave a space therebetween, said tab extending in only said space.

10 20. A container according to claim 19, wherein said tab extends in a gradual curve from said periphery and then at a spacing from said disc.

21. A container according to claim 20, wherein said curve has an internal radius of at least one-half of a millimetre.

15 22. A container according to claim 21, wherein said internal radius is roughly one millimetre.

23. A container according to claim 20, 21, or 22, wherein said spacing is at least one millimetre.

20 24. A container according to claim 20, wherein said curve and said spacing are such that an aqueous liquid in the space defined by the tab and the disc does not persist therein under capillary action.

25 25. A container according to claim 20, wherein said curve and said spacing are such that a liquid sterilant in the space defined by the tab and the disc does not persist therein under capillary action.

26. A container according to any one of claims 18 to 25,

wherein said hollow body is formed externally with a snap ring which, with an external annular shoulder of said hollow body, delimits an external, annular recess co-axial with said hollow body and serving as a main securing point for said closure.

27. A container according to any one of claims 18 to 26 and having at the inside of said hollow body and immediately beyond said extremity a frusto-conical surface which tapers slightly axially inwardly of said hollow body and serves as a guide for said foil during application of said foil and as part of a frustum seal, of which the other part is provided by said closure.

28. A container according to any one of claims 11 to 27, wherein said foil is a laminate comprised of metal sandwiched between two differing plastics materials of which the axially outer has a significantly higher melting point than the axially inner.

29. A method comprising:-
forming a hollow body,
filling said hollow body with a product, and
closing said body with a foil, including sealingly attaching said foil to a plastics surface provided by a shoulder which is located inside said body at a mouth end of said body and which has a radially innermost diameter less than the internal diameter of the axially outermost extremity of said mouth end.

30. A method according to claim 29, and further comprising applying a closure to said body to cover said foil.

31. A method according to claim 30, wherein said closure is produced by injection moulding.

32. A method according to claim 29, 30, or 31, wherein said hollow body is formed by blow-moulding from a plastics preform.

33. A method according to claim 32, wherein said preform is produced by injection moulding.

34. A method according to claim 29, 30 or 31, wherein said hollow body is formed by blow-moulding of a plastics parison.

35. A method according to any one of claims 29 to 34 and further comprising punch-forming a pull tab from a laminate, folding said pull tab back over a disc-form main body of said laminate so that said tab extends in a gradual curve from said main body, punching-out said main body with said tab and displacing said tab away from said main body so as to leave a space therebetween and to form said foil consisting of said main body and said tab, applying a liquid sterilant to said space, and drying the liquid sterilant from said space.

36. A method according to claim 35, wherein said liquid sterilant is aqueous.

37. A method according to claim 35 or 36, wherein said gradual curve has an internal radius of at least one-half of a millimetre.

38. A method according to claim 37, wherein said internal radius is at least one millimetre.

39. A method according to any one of claims 35 to 38, wherein said space is of a dimension between said tab and said disc of roughly one millimetre.

40. A method of producing a sealed container, comprising providing a hollow preform having an open end, moulding said preform to form a hollow body having said open end, sealingly attaching a foil to said open end of said hollow body so as to close said body at said open end, and applying over the foil a removable closure so that an annular portion of said closure co-operates with an annular portion of said hollow body to provide a frustum seal therebetween.

41. A method according to claim 40, wherein both the closure and the preform are produced by injection moulding.

42. A container comprising a hollow body moulded from a preform, a foil sealingly attached to a mouth end of said body so as to close said body at said mouth end, and a removable closure applied over the foil, an annular portion of said closure co-operating with an annular portion of said body so as to provide a frustum seal therebetween.

43. A container according to claim 42, wherein said closure is in the form of a snap-on closure.

44. A method comprising punch-forming a pull tab from a laminate, folding said pull tab back over a disc-form main body of said laminate so that said tab extends in a gradual curve from said main body, punching-out said main body with said tab and displacing said tab away from said main body so as to leave a space therebetween, applying a liquid sterilant to said space, and drying the liquid sterilant from said space.

45. A method according to claim 44, wherein said liquid

sterilant is aqueous.

46. A method according to claim 44 or 45, wherein said curve is given an internal radius of at least one-half of a millimetre.

5 47. A method according to claim 46, wherein said internal radius is about one millimetre.

48. A method according to any one of claims 44 to 47, wherein said space is given a dimension between said tab and said main body of roughly one millimetre.

10 49. A foil comprising a disc for closing a mouth, and a pull tab extending from the periphery of said disc back over said disc so that said tab extends in a gradual curve from said periphery and then at a spacing from said disc, said curve and said spacing being such that an aqueous liquid in the
15 space defined by the tab and the disc does not persist therein under capillary action.

50. A foil comprising a disc for closing a mouth, and a pull tab extending from the periphery of said disc back over said disc so that said tab extends in a gradual curve from said
20 periphery and then at a spacing from said disc, said curve and said spacing being such that a liquid sterilant in the space defined by the tab and the disc does not persist therein under capillary action.

51. A foil comprising a disc for closing a mouth, and a pull
25 tab extending from the periphery of said disc back over said disc so that said tab extends in a gradual curve from said periphery and then at a spacing from said disc, said curve

having an internal radius of at least one-half of a millimetre and said spacing being at least one millimetre.